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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,391	04/04/2001	Tadasu Kawashima	03310/002001	2925

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EXAMINER

EGAN, BRIAN P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 04/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,391

Applicant(s)

KAWASHIMA, TADASU

Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his invention.

The term “adapted” renders the claim indefinite. Either the printing medium is or is not adjacent to the adhesive layer when wound. Also note that as claimed, the Applicant is claiming two separate embodiments within the same claim – both wound and unwound. The Examiner suggests either separating each formation into separate independent claims or dropping the wound and unwound embodiments into dependent claims. Proper clarification and/or correction are required.

3. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his invention.

The dependent claim fails to state the claim number it is dependent upon. For Examination purposes, the Examiner has defined Claim 17 as being dependent upon Claim 1. Proper clarification and/or correction are required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929).

Dahlquist et al. teach a printing medium ("labels"; Col. 6, lines 72-74) comprising a base film (Fig. 3, #14) and an adhesive layer formed on one side of the base film (Fig. 3, #17) while the other side of the base film forms a printable face (Fig. 3, #15), wherein the printing medium is wound into a roll and the adhesive layer and the printable face of the base film are in adjacent relationship with one another (Fig. 1). The printing medium may further comprise a primer layer (Fig. 3, #16) formed on one side of the base film in between the adhesive layer and the base film. The adhesive comprises a natural rubber (Col. 3, line 69 to Col. 4, line 6).

Dahlquist et al. fail to teach the use of a base film whose surface has been rubbed to improve adhesion and a printing medium whose layers are biodegradable.

Taku, however, teaches the use of a rubbing treatment wherein a base film is rubbed prior to an adhesive being applied and then the substrate is dried (see Abstract). The rubbing treatment is not limited to any specific synthetic-resin film although polyester, polyimide, and polyamide films are most desirable (p. 3, paragraph [0013]). Taku teaches the use of a rubbing treatment for the purpose of improving the adhesive property of the film (p.5, paragraph [0035]). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have used a rubbing treatment for a substrate film with low adhering properties for the purpose of improving the adhesive property of the film as taught by Taku.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. by treating the base film with a rubbing means as taught by Taku in order to improve the adhesive property of the low-adhesion base film.

6. Claims 7-10, 12-13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929), and further in view of Shinoda et al. (#5,663,288) and Kanshin et al. (JP 08-267968).

Dahlquist et al. and Taku teach a printing medium whose adhesion is improved through a rubbing treatment as detailed above. Dahlquist et al. and Taku fail to teach the use of biodegradable materials in the printing medium composition.

Shinoda, however, teaches a degradable printing medium (Col. 1, lines 11-25; Col. 3, lines 15-16) comprising polylactic acid film (Col. 3, lines 25-29) with an opaque filler that does not inhibit the biodegradability of the base film (Col. 7, lines 45-48), a natural rubber based adhesive (Col. 9, lines 34-40), and a biodegradable receiving layer on the surface of the printable face (Col. 11, line 49 to Col. 12, line 3). Although Shinoda is silent to whether the polylactic acid is biaxially oriented, it is notoriously well known in the printing media art to use biaxially oriented polylactic acid film as evidenced by Kanshin et al. since biaxially oriented polylactic acid is excellent in transparency as well as many other physical properties while still being biodegradable (p. 5, paragraph [0028] of Kanshin et al.). Shinoda explains that conventional adhesive films made from polyvinyl chloride, polyolefins, or ethylene/vinyl acetate copolymers do not degrade or have a very slow degradation rate in the natural environment (Col. 1, lines 28-42; Col. 2, lines 3-17). Consequently, these films semipermanently remain when disposed after

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use and impair the scenery or destruct the living environment of marine organisms when abandoned in the ocean. Further, these films require a large amount of energy for incineration and PVC films particularly have a problem of developing toxic gas (Col. 2, lines 3-17). As a result, waste disposal of these general purpose resin films has been a serious social problem (Col. 2, lines 3-17). Therefore, one would be motivated to modify the material composition of printing mediums with biodegradable materials to help solve the aforementioned problems. Thus, Shinoda teaches a degradable printing medium for the purpose of providing a degradable adhesive film which is excellent in weatherability and can be degraded and disappeared in a natural environment after use (Col. 3, lines 1-4). Thus, it would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have modified a printing medium to include biodegradable materials for the purpose of providing a degradable adhesive film which is excellent in weatherability and can be degraded and disappeared in a natural environment after use as taught by Shinoda.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. to include biodegradable materials as taught by Shinoda in order to provide a degradable adhesive film which is excellent in weatherability and can be degraded and disappeared in a natural environment after use.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929), and further in view of Kangas et al. (#5,563,023) and Natsume et al. (JP 411322949 A).

Dalquist et al. and Taku teach a printing medium whose adhesion is improved through a rubbing treatment as detailed above. Dahlquist et al. and Taku fail to teach the use of a biodegradable colorant in the primer layer.

Kangas et al., however, teach a printing medium wherein a colorant is used in the primer layer (Col. 2, line 64 to Col. 3, line 16). Although Kangas et al. does not explicitly state that the colorant is biodegradable, Kangas et al. teach that the colorant comprises pigments or dyes, a resin binder, and methyl ethyl ketone and propylene glycol monomethylether solvents (Col. 4, line 58 to Col. 5, line 2). It is notoriously well known in the art that these aforementioned materials are biodegradable as evidenced by Natsume et al. (see Abstract). Kangas et al. teach the use of a colorant for the purpose of matching colors within the substrate (Col. 5, lines 4-7). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have used a biodegradable colorant within the primer layer of a printing medium for the purpose of matching colors between the different layers of the substrate as taught by Kangas et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. by using a biodegradable colorant within the primer layer as taught by Kangas et al. in order to match the colors between the different layers of the substrate while still providing a material that will degrade over time.

8. Claims 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929), and further in view of Yoshida et al. (#6,235,825).

Dahlquist et al. and Taku teach the use of a printing media as detailed above. Dahlquist et al. and Taku fail to teach the use of biodegradable substrates comprising an aliphatic polyester and polylactic acid.

Yoshida et al., however, teach a printing medium (Col. 1, lines 45-48) wherein the base film comprises an aliphatic polyester (Bionelle) (Col. 4, lines 18-23; Col. 11, lines 51-55) and polylactic acid (see Abstract). The base substrate further comprises anti-aging agents ("antioxidants") and opaque fillers ("colorant and ultraviolet absorber") (Col. 6, lines 46-53). Yoshida et al. teach the use of a biodegradable substrate for the purpose of mirroring the beneficial properties of polyethylene, polypropylene, PVC, PET, and other resins that have excellent flexibility, thermal resistance, and water resistance, while solving for the aforementioned materials failure to degrade in the environment (Col. 1, lines 14-30). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have used a combination of biodegradable materials such as aliphatic polyester and polylactic acid in a printing medium substrate for the purpose of mirroring the beneficial properties of polyethylene, polypropylene, PVC, PET, and other resins that have excellent flexibility, thermal resistance, and water resistance, while solving for the aforementioned materials failure to degrade in the environment as taught by Yoshida et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. to include biodegradable materials in the base film such as polylactic acid and aliphatic polyester as taught by Yoshida et al. in order to mirror the beneficial properties of polyethylene, polypropylene, PVC, PET, and

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other resins that have excellent flexibility, thermal resistance, and water resistance, while solving for the aforementioned materials failure to degrade in the environment.

9. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929), and Shinoda et al. (#5,663,288), and further in view of Auguste et al. (#6,162,858).

Dahlquist et al., Taku, and Shinoda et al. teach the use of a biodegradable printing media as detailed above. Although Dahlquist et al. and Shinoda et al. teach the use of natural rubber adhesives, Dahlquist et al. and Shinoda et al. fail to explicitly teach the use of a polyisoprene rubber with antiaging agents.

Auguste et al., however, teach the use of a polyisoprene adhesive (Col. 8, lines 32-42) with antiaging agents ("antioxidants") (Col. 5, lines 23-24) for a printable adhesive composite (see Abstract). Auguste et al. teach the use of a polyisoprene adhesive for the purpose of providing an adhesive that is stable when subjected to severe environmental conditions such as wide temperature ranges and high levels of humidity (Col. 2, lines 48-55). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have used a polyisoprene adhesive in a printing medium for the purpose of providing an adhesive that is stable when subjected to severe environmental conditions such as wide temperature ranges and high levels of humidity as taught by Auguste et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. by using a polyisoprene natural rubber adhesive as taught by Auguste et al. in order to provide an adhesive that is stable when

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subjected to severe environmental conditions such as wide temperature ranges and high levels of humidity.

10. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlquist et al. (#2,532,011) in view of Taku (JP 07-330929), and Shinoda et al. (#5,663,288), and further in view of Ashida (#6,162,858).

Dahlquist et al., Taku, and Shinoda et al. teach the use of a biodegradable printing media as detailed above. Dahlquist et al., Taku, and Shinoda et al. fail to teach the use of a rubbing treatment on the surface of the printing layer.

Ashida et al., however, teach a printing medium (see Abstract) wherein the printing layer is subject to a rubbing treatment with a cotton cloth (Col. 22, lines 40-41). Ashida et al. teach the use of a rubbing treatment for the purpose of determining the surfaces resistance to scratching (Col. 22, lines 41-42). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have subjected a printing surface to a rubbing treatment for the purpose of determining the surfaces ability to resist scratching as taught by Ashida et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist to include a rubbing treatment of the printed surface as taught by Ashida et al. in order to determine the surfaces ability to resist scratching.

Response to Remarks

11. The Examiner has withdrawn the 35 U.S.C. 112, second paragraph rejections from the previous office action pursuant to the Applicant's amended claims. The Examiner has made two new 35 U.S.C. 112, second paragraph rejections based on the Applicant's newly amended claims.

12. Applicant's arguments filed January 31, 2003 with regards to the 35 U.S.C. 103(a) rejections have been fully considered but they are not persuasive.

First, with regards to the primary reference – Dahlquist et al. (#2,532,011) – the Applicants have directed their attention to Figs. 5-6 in concluding that Dahlquist et al. teach an adhesive substrate with a release liner that is not windable and further conclude that there would be no motivation to modify Dahlquist et al. with a rubbed surface since Dahlquist et al. explicitly teach the use of a low adhesion surface and would not desire the use of a rubbed surface that creates an increased adhesion between layers. The Examiner respectfully disagrees with the Applicant's conclusions. The 35 U.S.C. 103(a) rejection is based on the first embodiment of Dahlquist et al. (Figs. 1-4), not the second embodiment (Figs. 5-6). In the first embodiment of Dahlquist et al., the adhesive substrate does not comprise a release liner. Instead, a low-adhesion backsize film is used in its place. The low adhesion back size film allows for the adhesive substrate to be wound without the adhesive layer adversely affecting the top surface of the substrate base layer. The low adhesion back size layer is on the surface of the base film opposite the adhesive surface. Contrary to the Applicant's contentions, there would be a strong motivation to modify Dahlquist et al. with a rubbed surface between the adhesive layer and the

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base film since a stronger adhesion between the adhesive layer and the base film would further prevent the adhesive from adversely affecting the opposite surface of the base layer when in wound formation. The same motivation would be true in the case of providing a rubbed surface on the top surface of the base layer (which is the printing surface) between the base layer and the low adhesion back size film. The mere fact that Dahlquist et al. teaches a single layer that comprises low adhesion characteristics which is intended to create low adhesion between the adhesive layer and the top surface of the substrate base layer does not preclude one of ordinary skill in the art from recognizing the desire to increase adhesion between the other individual layers, i.e. the bottom surface of the substrate base layer and the adhesive layer.

Therefore, given that the test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art, *In re McLaughlin*, 170 USPQ 209 (CCPA 1971), the Examiner maintains that it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have provided a rubbed surface between the base layer and the adhesive layer of Dahlquist et al. by creating a rubbed surface as taught by Taku.

With regards to the other secondary references, i.e., Kangas et al., Yoshida et al., August et al., Ashida et al., Shinoda et al., Natsume et al., and Kanshin et al., the Applicant contends that it is unclear why one of ordinary skill in the art would be motivated to "pick and choose" features from prior art references without some motivation to do so. Again, the test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art, *Id.* Furthermore, it has been held that the number of references does not have a bearing on the propriety of the rejection; theoretically such could be infinite. *Ex*

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parte Fine, 1927 C.D. 84 (1926). In each of the aforementioned 35 U.S.C. 103(a) rejections, the Examiner has provided the Applicants with a proper motivational statement such that it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the primary references as noted.

The motivational statements provided as detailed above include the following:

- It would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. to include biodegradable materials as taught by Shinoda in order to provide a degradable adhesive film which is excellent in weatherability and can be degraded and disappeared in a natural environment after use.
- It would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. by using a biodegradable colorant within the primer layer as taught by Kangas et al. in order to match the colors between the different layers of the substrate while still providing a material that will degrade over time.
- It would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. to include biodegradable materials in the base film such as polylactic acid and aliphatic polyester as taught by Yoshida et al. in order to mirror the beneficial properties of polyethylene, polypropylene, PVC, PET, and other resins that have excellent flexibility, thermal resistance, and water resistance, while solving for the aforementioned materials failure to degrade in the environment.
- It would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist et al. by using a polyisoprene natural rubber adhesive as taught by Auguste et al. in order to provide an adhesive that is stable when subjected to

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severe environmental conditions such as wide temperature ranges and high levels of humidity.

- It would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified Dahlquist to include a rubbing treatment of the printed surface as taught by Ashida et al. in order to determine the surfaces ability to resist scratching.

The Examiner has therefore provided motivational statements that would have rendered any of the aforementioned modifications obvious to one of ordinary skill in the art at the time Applicant's invention was made. Taken as a whole, the references render obvious the Applicant's claimed invention and the Examiner has therefore maintained the 35 U.S.C. 103(a) rejections from the previous office action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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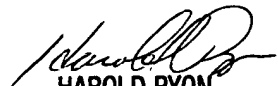
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BPE
April 23, 2003



HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

4/23/03